

SCIENTIFIC NOTES.

IS THE POTATO DISEASE HEREDITARY?—A correspondent of an English journal of horticulture says he planted in 1860 some pink kidney potatoes of a late-keeping kind, called Yorkshire Kidneys. They produced much harm, and are a little given to disease. The crop was diseased. He selected from the diseased seed twelve of the worst tubers, and sowed them as scarcely to be fit for eating—and planted them, in March, 1860, in a piece of poor ground without any manure. The result was 11 potatoes quite sound and 15 diseased. In 1867 he planted these diseased potatoes, and a few score, and found them to be a little better, but still scarcely any better at all. In 1868 he planted two rows, taking all the diseased and small potatoes; the result was a good crop, and no disease. On the 21st of April, 1869, he looked over the potatoes left—about half a bushel—and could not find a trace of disease.

NEW MODE OF SETTING BOILERS.—Some of the boilers in Sheffield, England, have been set upon a new plan. It consists of an arrangement of flues, by which the gases are thoroughly exhausted at four successive stages, before passing through the fire, and are thus thrown obliquely against the surface of the boiler. The capacity of the fire is not contrated, yet no part of the gases can escape this repeated contact with the boiler, and in the process the heat they carry is so increased that the temperature of the water is raised. A series of careful tests show an average evaporation of twelve pounds of water for each pound of bituminous coal used. The improvement will be of great value to those who are unable to afford any ordinary fuel, and the cost of fuel will be furnished at so moderate a cost that the expense is soon repaid by the saving of fuel.

CHLORAL.—This compound has been subjected to numerous experiments in France since the first announcement that it possessed anaesthetic properties. It is formed by the action of perfectly dry chlorine gas upon pure alcohol. The hydrogen atoms absorbed are not replaced entirely by chlorine atoms, since the chlorine contains two atoms of carbon, three of chlorine, and one of oxygen. In a short time the chlorine is separated, and remains in a crystalline solid. It has been successfully administered to persons suffering from nervous irritability, weakness, and wakefulness. M. Boucharat, who has investigated its properties with great care, considers it a valuable remedy for the irritation of chloral is the sedative of violent pain in, out of, the atrocious sufferings occasioned by nephritis, colic and dental caries; in a word, it is the very best of anaesthetics. It is administered through the nostrils, and acts quickly, and is a most efficacious remedy in intense chorea, when it is required to abate speedily a condition of restlessness, which is in itself a peril to the life of the patient.

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